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AUTHOR Cho, Young-Mee Yu
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ABSTRACT

A discussion of the treatment of suffixes in Korean linguistic theory argues that, in view of recent clitic typology, Korean case markers and verbal suffixes are better analyzed in lexical rather than in syntactic terms. Evidence for this approach is found in phonological phenomena, morpheme and allomorph selection, and compounding. The most important argument posited is based in the morphologically determined phonological interactions between stems and these suffixes. Approaches to the interface of morphology and syntax in this instance in generalized phrase structure grammar and in lexical functional grammar are also proposed. (MSE)

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Phonological Evidence for the Lexical Treatment of Korean Suffixes

Young-mee Yu Cho*
Stanford Unversity

1 Introduction

Several recent studies of Korean morphology have attempted to establish the exact morphological status of nominal case markers and verbal suffixes. It has been agreed by all that these elements are phonologically dependent on the preceding word or morpheme. However, the question has not been resolved as to whether these elements are syntactically and morphologically independent or not.

Currently, there are three analyses of these morphemes (or words): as inflectional affixes (Kang 1987, Cho and Morgan 1988, Park 1988), as clitics (Kuh 1988), and as phrasal affixes (Kim 1986, Kendall and Yoon 1986, Yoon 1987).[1] Thus far the arguments for the syntactic treatment are based on such syntactic factors as the phrasal distribution of these morphemes, their productivity, and their scope. On the other hand, no solid arguments for the lexical treatment have been given in the literature. Most of the arguments are based on phonological rules that are obligatory within the phonological word. It is a well-known fact, however, that both suffixes and clitics are unable to stand on their own prosodically. As a result, those rules whose domain is the phonological word (e.g., Tensing) are compatible with any of the above analyses.

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[1]Traditional grammars treat verbal suffixes as true affixes but nominal case markers as belonging to a separate lexical category (Choi 1965).

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In this paper, I argue that close investigation of the morphology and phonology interaction reveals that the relevant morphemes are attached lexically: i.e. these suffixes belong not only to a phonological word (as in the cases of clitics and phrasal affixes) but to a lexical word in the sense of Lexical Phonology.

2 Data

A selection of the morphemes in question is listed in (1).

First, there are noun suffixes which mark such properties as case, focus, mood, plurality, quantification, and semantic delimitation. To this list, I add the copula *-ita*. Second, there is a complex series of verb suffixes that are attached to the verb stem to mark mood, tense, aspect, speech level, and discourse functions.

(1) a. Noun Suffixes
Case Markers: Nominative -i/-ka
Accusative -il/lil
Genitive -ii
Postpositions: Locative -e, -eso
Dative -eke
Instrumental -lo/ilo
Conjunctor -kwa/-wa
Delimiters: Topic Marker -in/-nin
'only' -man
'also' -to
'even' - cocha
Copula: -ita
b. Verb Suffixes
Honorific: -si/-isi
Tense: Past -ess
Future -kess
Modifier:-n/-in, -nin, -l/-il
Adverbial: -key
Nominalizer: -im, -ki
Comp: -e, -key, -ci

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Aspect: -supni
Mood: Declarative -ta
      Question  -kka, -ni
Discourse:  -yo, -ne
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Let us examine first the arguments for their syntactic treatment, which includes both the clitic analysis and the phrasal affix analysis. The syntactic approach to the attachment of these morphemes is motivated by certain syntactic generalizations. If one assumes that these morphemes are attached to syntactically formed phrases rather than to stems or words, their phrasal or sentential scope falls out naturally. On the other hand, a lexical approach needs to provide a non-syntactic account for the scope facts.

Another argument used in the literature is the productivity of these morphemes: there are no paradigm gaps or true exceptions. I believe this does not constitute a positive argument in itself. Rather, the fact that some of these morphemes undergo unpredictable rules of allomorphy indicates that they behave more like lexical affixes than clitics.

The mere fact that these elements play an important role in syntax and semantics does not necessarily lead to the conclusion that they should be handled by 'post-syntactic' morphology or cliticization (see Poser 1985 and Kanerva 1987 for similar cases). Moreover, the Korean suffixes, unlike the English genitive /z/, show strong evidence that they are lexically attached. Insofar as a linguistic theory provides a means to explain the observed syntactic facts, thus resolving the apparent paradox, I argue against abandoning the well-motivated division between lexical and postlexical processes.

3 Evidence for Lexical Attachment

3.1 Phonological Evidence

Let us first review the arguments for lexical attachment found in the literature. Cho and Morgan (1987, 1988) propose certain phonological rules as evidence, citing Sadock's criteria for wordhood (Sadock 1980). However, it should be born in mind that such tests as obligatory sandhi processes and the possibility of inserting parentheticals are tests not so much for morphological wordhood as for phonological wordhood.

(2) a. Tensing

kaksi-->kaks'i 'bride'

cuŋkuk cip--> cuŋguk c'ip
China house 'chinese restaurant'

cip-kwa--> cipk'wa
house-conj 'house and'

cak-ko--> cakk'o
small-conj 'be small and'

ha-lt su--> hal s'u
do-Mod way 'way to do'

cuŋkuk cip-->cuŋguk cip (*cunguk c'ip)
China house 'chinese houses'

pap teuə--> pap teuə (*pap t'euə)
rice warm 'warm the rice'

b. Intervocalic Voicing

apəci--> abəji 'father'

cip-il--> cibil
house-Acc

salam-til-->saramdil
person-Pl

sA kilim--> sA girim
new picture

mul teuə--> mul deuə
water warm 'warm the water'

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As illustrated in (2a), Tensing applies within underived words, as in *kaks'i*, lexical compounds, as shown in *cuŋgukc'ip*, between the host and the clitic (as in *hal s'u*) and between a stem and a case marker or a verbal suffix. It is, however, blocked between two phonological words as shown in the last two examples. A minimal pair like *cuŋgukc'ip* 'a chinese restaurant' and *cuŋgukcip* 'a chinese house' shows clearly the domain of the rule. Tensing does not apply to a phrasal unit like the latter example, whereas it applies to lexical compounds. Thus, Tensing does not show whether the morphemes in question are lexically attached or not. Similarly, Intervocalic Voicing cannot be used as a test. It has been concluded that the domain of Voicing is the Phonological Phrase in the Prosodic Hierarchy, which is larger than the Phonological Word (Cho 1987, 1988). (2b) illustrates examples involving a underived word (*abəji*) and a noun and a case marker (*cibil*), a noun and a plural marker (*saramil*), as well as such phrasal combinations as an adjective and a noun and an object and a verb.

Now let us examine true lexical rules. According to Zwicky and Pullum (1983), morphophonological idiosyncracies are more characteristic of affixed words than of clitic groups. A similar claim is made by Sadock (1980) that the phonological rules that apply within words are more often morphologically or lexically controlled and can be subject to exceptions and idiosyncracies. Lexical Phonology also identifies properties distinguishing lexical and postlexical rule applications (Kiparsky 1982, 1985, Mohanan 1985). One property that is relevant here is the morphological sensitivity of lexical rules. The rules shown in (3) and (4a), therefore, will be classified as lexical in any theory.

(3) a. Palatalization
t, th--> c, ch /_____ i

əti-->ədi (*eci) 'where'
canti--> candi (*candi) 'grass'

kath+i--> kachi 'together'
same+adv

tot+i-->toji 'rising'
rise+Nomimalizer

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kut+hi+ta--> kuchida
hard-Cau-Mood  'make it hard'

path-i-->pachi
field-Nom

mat-ita-->majida
eldest-Cop

path+ilan-->pad iran (*pajiran) (Compounding)
field ridge   'the ridge of a field'

 path  ilkuko --> pad ilgugo (*pachilgugo)
field   till    'till the field'
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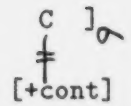
Palatalization is a rule that palatalizes a dental preceding the high front vowel *i*.[2] It does not apply to underived words as in *ति* and *canti*, nor does it apply after two words are put together in the syntax. The fact that there is no Palatalization inside underived words as well as between two members of compounds indicates that the domain of the rule is not the Phonolgical Word. It applies instead between the stem and a derivational suffix (as in *kath+i, tot+i, ku+hita*). Crucially, the nominal and verbal suffixes trigger Palatalization as shown in such examples as *path-i* and *mat-ita*. If these morphemes were clitics rather than suffixes, it would be hard to account for the application of a lexical rule between a host and a clitic. Since they would be separate syntactic terminals and would come together as one phonological word post-syntactically, rules that are sensitive to morphological information would not apply.

This is in direct contrast to the English genitive /z/ which exhibits phrasal distribution and shows no sign of lexical attachment. There is the voicing assimilation rule that is responsible for its various phonetic realization, but there is no positive evidence that the rule is limited to the lexicon; hence the status of the genitive morpheme is controversial.

(4) Coda Neutralization

[2]Palatalization of *s* and *n* is a post-lexical process which does not exhibit any lexical properties.



us-im--> usim (*udim)
smile-Nom 'smile'

os-il-->osil
clothes-Acc

os-ita-->osida
Clothes-Cop

c'och-ilim--> c'ot-ilim-->c'odirim
flower-name 'the name of a flower'

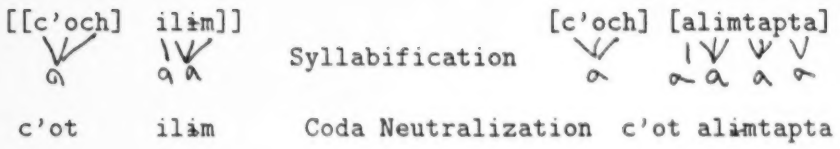
c'och alimtapta--> c'od arimdapt'a
flower be beautiful ''the flower is beautiful.''

Similarly, Coda Neutralization interacts closely with lexical syllabification and shows that the domain of syllabification is the morphological word, rather than the phonological word. There is a productive rule that neutralizes a continuant to a stop only in the syllable coda position. When the continuant in the stem is syllabified as the onset of the following suffix, it escapes the application of Coda Neutralization, ass in *usim*, *osil* and *osita*. Lexical syllabification takes as its domain the stem and the suffixes (either derivational or inflectional) but never covers two morphological words. This is why there is obligatory Neutralization in compounding (*c'odirim*) and between the twp Phonological Words, as shown in the last two examples in (4) Some derivations are presented in (5).

(5)

clothes-Acc (No Coda Neutralization)

smile-Verbal suffix 'while smiling'



In the first two examples, the stem final *s* is syllabified as the onset of the following suffix, whereas in the last two examples the affricate *ch* is neutralized to *t* since the domain of lexical syllabification is the morphonological word *c'och*.

3.2 Other Evidence

In addition to phonological evidence discussed in the above section, facts of morpheme and allomorphe selection, and compounding provide further evidence for the lexical status of these morphemes. First, some of the morphemes are not phonotactically possible independent words. For instance, the modifier suffixes *-n*, *-l* and the nominalizer *-m* in the examples in (1) are not possible words since they are non-syllabic. This confirms the observation made by Zwicky (forthcoming) that inflections, but not words, are often non-syllabic. True clitics such as *su* and *kes*, on the other hand, are all possible words.

(6) Lexicalization

mu**ə**s-il ~ mu**ə**l
what-Acc

i-k**ə**s-i ~ ike
this-thing-Nom

Second, (6) presents instances of idiosyncratic lexicalization. Along with *mu**ə**s-il* 'what(Acc)' and *ik**ə**s-i* 'this thing (Nom)' there are *mu**ə**l* and *ike* in which the stem and the case marker are merged unanalyzably. Again following the commonly made observation that clitics do not affect the morpheme structure of their host words, this lexicalization that results in the merge of the stem and the case marker can be an additional argument for the lexical treatment.

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Third argument involves a class of compounds in which a locative marker -e intrudes between the two members of the compound. (7) shows the relevant data.

(7)

u-e-ni-> uenni (subcompound gemination)
upper-Loc-teeth ''the upper teeth''

aph-e-cip--> apheccip
front-Loc-house ''the house in front''

kyə̆th-e-salam--> kyə̆thessaram
near-Loc-person ''one's acquaintances''

sok-e-mal -->sogenmal
inside-Loc-talk ''confidential talk''

kŭ-e-mal--> kŭenmal
ear-Loc-talk ''whisper'' (Kim, Y.S. 1985)

The compounding shown in (7) is clearly a lexical process that involves morphological and semantic idiosyncracies and lexical exceptions. If one accepts the view that affixes, being word-internal, are more susceptible to idiosyncratic lexicalizations than word-external clitics (Zwicky and Pullum 1983, Kanerva 1987), the above data can be interpreted to support the lexical analysis of case markers and postpositions.

Fourth, the ordering of both the nominal and the verbal suffixes with respect to the stem and to other suffixes are fixed, thus requiring certain morphological principles of ordering (Yang 1972, Ahn 1988). Also some of these morphemes are in a mutual exclusion relationship. For instance, the topic marker *(n)ŭn* and the nominative or the accusative marker cannot cooccur. This shows that these morphemes, being affixes, exhibit a high degree of selection with respect to the stem and the affixes preceding them.

Finally, rules of allomorphy can be interpreted as evidence for the lexical attachment. Some of the morphemes in (1) have two alternate forms, whose conditioning factor is whether the stem they attach to ends in a vowel or a consonant. Whereas most of the allomorphy selection can be explained by either vowel deletion or vowel epenthesis, there are a few forms that simply

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defy such an attempt. For instance, there is no justification in the phonology of Korean for a rule that has the effect of changing the nominative marker *-i* to *-ka* or changing the conjunctive marker *wa* to *kwa*. As pointed out by Zwicky and Pullum (1983), suppletion is more characteristic of affixes than clitics.

4 Conclusion

The conclusion drawn from the above discussion is that Korean case markers and verbal suffixes are better analyzed as lexical affixes in view of a recent clitic typology. The most important argument is morphologically determined phonological interactions between stems and these suffixes.

The question, however, remains how the lexically attached morphemes can have their syntactic effect if one wants to maintain a lexicalist hypothesis. I will merely point out that this can be done in GPSG by general feature inheritance principles which allow the necessary interface between the lexical and syntactic components (Gazdar, Klein, Pullum and Sag 1985, Poser 1985 and Cho and Morgan 1988). These principles account for the dual nature of inflectional suffixes when their phonological realization is clearly lexical but the licensing of a particular case form is syntactic. The morphology applies in the lexicon and attaches features to the word, which are then visible in the syntax.

Similarly, this morphology/syntax interface can be handled in Lexical Functional Grammar (Bresnan 1982), where the mapping of syntactic functions onto predicate argument positions is morpholexical, not syntactic, and the derivational and inflectional affixes contribute to the feature makeup of a morphological word. The functional information carried by a lexical head is then associated with the mother node and is visible in the syntax.

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